Appl. No. 10/016,380
Amdt. Dated July 9, 2005
Reply to Office Action of May 31, 2004

STATEMENT REGARDING SUBSTANCE OF INTERVIEW re. MPEP SECTION 713.04.

Applicant Burns and Examiner Taylor participated in an interview held 12 July 2005 and discussed a draft version of this Amendment B provided by the Applicants, in particular new independent claims 21 and 32 and dependent claim 30. Prior art discussed included Baehr, et al (5,839,050), August et al (6,389,055), and Wang et al (2004/0199389, 2002/0083060, and 60/222,023). The principal arguments presented to the Examiner were essentially those presented in this paper under "REMARKS/ARGUMENTS". A copy of form PTOL-413 summarizing this interview appears on page 9 of this paper. An agreement was reached regarding Applicants' new claims 21 and 32 as overcoming prior art of record. The Examiner will perform a new search regarding these new claims.

New claims 21-37 listed in this paper are identical to those discussed in the Amendment B draft of 12 July 2005. Some minor typographical errors in that Amendment B draft have been corrected herein.

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Reply to Office Action of May 31, 2004

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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
10/016,380	12/10/01	[illegible]	

EXAMINER	
Barry W. Taylor	
ART UNIT	PAPER NUMBER
2643	7/12/05

DATE MAILED:

INTERVIEW SUMMARY

All participants (applicant, applicant's representative, PTO personnel):

(1) Barry Taylor (3) ______
(2) Alan Burns (4) ______

Date of Interview ______

Type: ☐ Telephonic ☐ Televideo Conference ☒ Personal (copy is given to ☒ applicant ☐ applicant's representative).

Exhibit shown or demonstration conducted: ☐ Yes ☒ No If yes, brief description: ______

Agreement ☒ was reached. ☐ was not reached.

Claim(s) discussed: Independent claims 21 + 32

Identification of prior art discussed: [illegible] et al (5,839,050), 6390 55 (Hurst et al) and [illegible] (Wang et al).

Description of the general nature of what was agreed to if an agreement was reached, or any other comments: Applicants amendment supplied [illegible] overcome [illegible] prior art of record. The Examiner will perform a search on the newly added claims due to change of scope of originally filed claims

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must be attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

☐ It is not necessary for applicant to provide a separate record of the substance of the interview.

Unless the paragraph above has been checked to indicate to the contrary, A FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW.

Examiner Note: You must sign this form unless it is an attachment to another form.

Barry W. Taylor

FORM PTOL-413 (REV. 2-93)

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REMARKS/ARGUMENTS

Opening Remarks: Responding to the action of the Examiner in Final Office Action mailed 31 May 2005, the Applicants note that the Examiner has advanced new ground(s) of rejection. The Examiner states that Applicants' previous arguments are considered moot in view of the new ground(s) of rejection. However, the status of the previous arguments is ambiguous because the Examiner has considered, but has not responded, to them. It is unclear whether or not the Examiner has retracted his previous ground(s) of rejection. The Examiner has incorporated the entire body of the previous ground(s) in the new ground(s) of rejection. The Examiner previously relied on the teachings of *Baehr et al* U.S. Patent Number 5,839,050 (hereinafter Baehr) in view of *August et al* U.S. Patent Number 6,389,055 (hereinafter August) for the rejection of claims 1-15 and 17-20 under 35 U.S.C. § 103(a). Now, the Examiner relies on the teachings of Baehr et al in view of August et al **or** *Wang et al* (2004/0199387 hereinafter Wang).

Therefore, the Examiner's new ground(s) of rejection basically comprise (1) a repetition of his previous ground(s) of rejection plus (2) the teachings of Baehr in view of Wang and, evidently, (3) the teachings of Baehr in view of both August and Wang. Thus, Applicants respectfully submit that our previous arguments nevertheless apply to a subset of the new ground(s) of rejection and are not entirely moot. We have refined and repeated those arguments in this response.

Applicants' filings antecede Wang. Applicants further note that the Wang publication was filed on 26 April 2004, while the Applicants' filing date was 10 December 2001. Furthermore, Applicants' claim benefit of Provisional Patent Application 60/254,740, filed 12 December 2000. Therefore, Applicants

respectfully submit that is improper under 35 U.S.C. § 102(a), (b), and (e) to cite Wang as "prior art" when our application predated Wang by several years.

However, Applicants further note that Wang is actually a division of Wang et al (APN 09/671,571 filed 27 September 2000 hereinafter Wang/parent, which in turn claims the priority of U.S. Provisional Application No. 60/222,023 filed 31 July 2000). Wang incorporates Wang/parent by reference. There are significant differences between Wang and Wang/parent, and the paragraphs cited by the Examiner regarding Wang do not necessarily correspond to those of Wang/parent. Applicants also respectfully submit that it would be improper to cite any new matter in Wang under 35 U.S.C. § 102(a), (b) and (e), and that any matter in Wang/parent that has been deleted in Wang is controlling and must be considered. Furthermore, the basic elements of Applicants' invention were described in Disclosure Document No. 476,159, filed 27 June 2000, which clearly predates the Wang/parent PPA filing.

Applicant's invention employs a different principle of operation from that of the references. Briefly, Applicant's invention identifies the source of a broadcast signal by **combining** at least the basic steps of (1) intercepting the audio signal from a broadcast station or other dissemination media and transmitting that audio to a second location, (2) comparing the intercepted audio to the audio received at that second location from known broadcast and other sources.

Baehr teaches receiving spurious emissions at a large multiplicity of roadside scanners from receivers in passing vehicles that uniquely identify broadcast transmitters. Nowhere does Baehr teach or suggest, explicitly or otherwise, processing any audio content received at the roadside scanners to identify the source of a broadcast signal. Nowhere does Baehr teach or suggest, explicitly or otherwise, receiving broadcast signals at the roadside scanners or at any other

second location. Nowhere does Baehr teach or suggest, explicitly or otherwise, comparing audio signals at two or more locations to identify the source of a broadcast signal of for any other purpose.

August teaches the steps of (1) embedding an audible or inaudible code in a broadcast signal, (2) intercepting audio containing the embedded code and transmitting it (using a mobile telephone, in one embodiment) to a second location, where (3) the embedded code is recovered and decoded to identify the source of the broadcast. Nowhere does August teach or suggest, explicitly or otherwise, receiving broadcast signals at any other second location. Nowhere does August teach or suggest, explicitly or otherwise, comparing audio signals at two or more locations to identify the source of a broadcast signal. In addition, **Applicants' invention does not require embedding any code whatsoever.** Furthermore, Applicants' method uses the entire intercepted audio signal, whether or not it contains audible or inaudible embedded codes.

Wang/parent teaches a method for identifying audio material by title by comparing markers (termed "fingerprints" and associated "landmarks", etc.) extracted from audio segments. A match is declared when the temporal progression of fingerprints and markers are the same for the particular audio material to be identified is the same as that of some progression stored in a database. The audio may be transmitted to a central processing location using mobile telephones. However, Wang/parent makes no provision for identifying and cannot identify the broadcast source of the identified audio material. That is, knowing **what** was broadcast does not necessarily tell **how** and **when** it was broadcast. For example, numerous stations in many areas specialize in broadcasting "oldies", such as the well-known "Hotel California". Successful identification of "Hotel California" provides no information concerning the exact broadcast station. Such identification requires the additional step taught in

Applicants' invention whereby audio received at a second location from known transmitters or other sources is compared to the audio intercepted at substantially the same instant of time. Nowhere does Wang/parent teach or suggest, explicitly or otherwise, receiving broadcast signals at any other second location. Nowhere does Wang/parent teach or suggest, explicitly or otherwise, comparing audio signals received simultaneously or nearly simultaneously at two or more locations to identify the source of a broadcast signal. In addition, Wang/parent requires the previous construction of a database containing markers for all possible audio segments of possible interest (perhaps billions of entries, according to Wang/parent) [47]. Furthermore, Wang/parent cannot identify real-time audio program material that cannot be included previously in a database, such as news programs and "talk" shows. **In contrast, Applicants' invention does not require prior construction of a database.** Applicants' method does not use a stored database and may be used in near-real time with no long-term data storage.

Superheterodyne Receiver Operation: The Examiner relies on supposed teachings by Baehr of a method for detecting a radiated "so-called intermediate frequency signal generated by all conventional radio...receivers..." (col 5, lines 66 – col 6, line 4) from a passing car using a scanning receiver situated adjacent to a roadway (col 6, lines 42-43). In fact, Baehr has for whatever reason obfuscated the true nature of the signal radiated by conventional superheterodyne AM and FM receivers that is detected by their method. It is thus worthwhile briefly reviewing superheterodyne receiver operation here.

There are basically four distinct signals in a conventional superheterodyne receiver, each occupying a different frequency band. These are (1) the "RF", or broadcast frequency, signal, (2) the "LO", or local oscillator, signal, (3) the "IF", or "intermediate frequency" signal, and (4) the modulation signal, which may be an

audio frequency signal, a video signal, or another signal. The RF and IF signals are modulated by the modulation signal, while the LO is a steady tone that carries no audio, video, or other modulation. A superheterodyne receiver is tuned by varying the LO frequency. For standard AM receivers, the IF is at 455 KHz and the LO ranges from about 1 to about 1.5 MHz. For standard FM receivers, the IF is 10.7 MHz and the LO ranges from about 99 to about 119 MHz. The following quotation from F.E. Terman, ed, *Electronic and Radio Engineering*, McGraw-Hill, New York (1955), pp. 943-4, succinctly summarizes superheterodyne receiver operation:

> "**24-4. Radio Receivers --- General Considerations.** All radio receivers except a few designed to meet specialized needs are of the superheterodyne type. Such receivers can be represented schematically as shown in Fig, 24-6; they consist of a radio-frequency section, a mixer (or first detector) and a local oscillator, an intermediate-frequency amplifier, a second detector, an audio-frequency amplifier, and a loudspeaker or other indicating device.
>
> The radio-frequency section provides coupling from the antenna input terminals of the receiver to the grid of the first tube, and also includes any stages of tuned radio-frequency amplification that amplify the incoming signal before its frequency is changed. The chief purposes of the radio-frequency section are (1) to provide an efficient coupling between the antenna and the first tube that utilizes as effectively as possible the energy abstracted from the radio wave, and (2) to provide discrimination or selectivity against image and intermediate-frequency signals, as discussed on page 951. Selectivity obtained in this way is commonly termed *pre-selection* because it precedes the mixer.
>
> The local-oscillator-and-first-detector section provides a frequency-conversion system of the type discussed in Sec. 16-10 that converts the incoming signal to a predetermined fixed *intermediate frequency*, usually

lower than the signal frequency. The intermediate-frequency section consists of one or more stages of tuned amplification having a bandwidth corresponding to that required for the particular type of signal that the receiver is intended to handle. This section provides most of the receiver amplification and selectivity.

The second detector is normally a diode detector in the case of amplitude-modulated signals, or a phase-shift discriminator or ratio detector in the case of frequency-modulated signals. It is followed by a modulation-frequency amplifier (audio or video according to the type of signal involved) to provide additional amplification, and finally an indicating device such as loudspeaker."

The following quotation is col. 5 line 66 - col. 6 line 29 of Baehr (Applicants have added emphasis in **bold**):

"The radio listenership measurement and evaluation system of the present invention 10 utilizes the radiated component of the so-called intermediate frequency signal generated by all conventional radio and television receivers to directly measure the number of receiver units tuned to a frequency of interest. All licensed amplitude modulated (AM) and frequency modulated (FM) broadcast stations are assigned to a particular frequency within a given geographic region. When an automobile 12 travels within the given geographic region, the automobile's antenna 14 receives the individual frequencies or stations and amplifies the audio carried on their signals internally. In order to isolate the internal receiver signal from the received signal, the amplifier of the auto receiver shifts the received signal by a predetermined offset to produce an intermediate signal 16. For FM stations, the intermediate signal is 10.7 MHz above the station's assigned frequency. For AM signals, the intermediate signal 16 is provided at 455 KHz above the station's assigned frequency. All FM

intermediate frequencies are calculated by taking the center frequency and adding 10.7 MHz, while all AM intermediate frequencies are calculated by taking the center frequency and adding 455 KHz. For example the FM signal 98.1 MHz has an intermediate frequency of 108.8 MHz. Throughout the United States, no station is assigned to the frequency corresponding to the intermediate frequency of another station to avoid interference. These intermediate frequencies range from 500 KHz to 120 MHz, incorporating the standard AM & FM radio bands, and such intermediate frequencies typically carry a 5 to 25 kilohertz bandwidth. Within the automobile receiver, additional electronic circuits convert the intermediate signal into an audio signal for the car's speakers.

An automobile radio actually retransmits its intermediate frequency signal 16 as a result of leakage from the receiver amplifier circuits. Although intermediate signal 16 is a very low power signal (on the order of 20 to 100 milliwatts for FM signals and 60-100 microvolts for AM signals), this signal can be sensed and amplified in the region near the receiver. **The presence of this radiated intermediate signal 16 forms the basis of the present invention.** The present invention is primarily, although not exclusively, intended for use in measuring automobile or personal portable radio receiver listenership. As a result, the primary application of the present invention is to install the invention adjacent a roadway to monitor and count the listenership of passing automobiles."

A comparison between the Terman and Baehr quotations shows that Baehr use the terms "intermediate frequency" and "intermediate signal" to refer loosely and inconsistently to both the IF and LO signals. Thus Baehr's description contains significant ambiguities. However, it is obvious from Terman that Baehr's sensed "intermediate signal" is actually the local oscillator (LO) signal. A careful reading

shows that Baehr's roadside scanner actually senses the frequency of the LO signal from a passing automobile radio and converts that to digital. This quotation makes clear the essence of the Baehr teaching: The mere presence of the intermediate signal (LO signal, in actuality) is detected by the roadside scanner, and the frequency of that intermediate signal is used to uniquely identify the broadcast transmitter.

Furthermore, 98-MHz high-pass FM screening filter 34 (Fig. 2) would exclude the 10.7 MHz IF signal supposedly being detected. This filter passes FM LO frequencies, which are greater than 98 MHz, and eliminates the IF signal. Baehr declares a "hit" when the roadside scanner detects an LO signal from a passing vehicle. Baehr's scanner cannot detect the IF signal due to the high-pass filter. Clearly, by eliminating the FM IF signal explicitly, Baehr teaches away from sensing the IF signal.

Applicants also wish to note that the radiation of spurious and incidental signals from radio receivers is a phenomenon known for decades, back to the early days of radio. Such radiation is intrinsic to the operation of radio receivers, especially conventional superheterodyne receivers. Indeed, Part 15 of the FCC Regulations restricts and limits the amount of such unintentional radiation. In the U.K., radio receivers were (and still may be) taxed, and the British Government employed mobile scanners to detect "illegal" receivers by detecting their LO emissions. Therefore, there can be no new "teaching" of radiating or retransmission of intermediate or any other spurious or incidental signals form radio receivers.

Baehr does <u>not</u> teach retransmitting an audio signal. The Examiner asserts: "<u>Furthermore, Baehr teaches the intermediate signal is actually converted into an audio signal (see at least col. 6 lines 27-29) before the automobile actually</u>

retransmits it." Directly quoting from Baehr col. 6 lines 27-29: "...Within the automobile receiver, additional electronic circuits convert the intermediate signal into an audio signal for the car's speakers..." Obviously, these words of Baehr do not contain, explicitly or otherwise, any reference to or suggestion of retransmission of the audio signal "by the automobile" or by anything else. Therefore, Applicants respectfully submit that Baehr col. 6 lines 27-29 do not in fact support the Examiner's assertion. This is the one and only other mention of an audio signal in Baehr's description besides that of col. 6 lines 8-9, which are included in the above quotation, regarding audio modulation carried on the (true) IF signal. Baehr contains no other mention or description of the additional circuits or any connections thereto. Lines 27-29 of col. 6 merely state that other circuits, which are not a part of Baehr's teachings, are used to produce audible sounds in conjunction with speakers, exactly as described by Terman. **Baehr describes (inaccurately, in fact) nothing more than a standard radio receiver and the well-known functions of some of the circuits that comprise a standard radio receiver.** Nowhere does Baehr teach or suggest, explicitly or otherwise, any means, reason, motivation, or use for retransmitting an audio signal converted from an intermediate signal.

It is obvious from their description (col 6, lines 4-29) that Baehr's "intermediate frequency signal" is actually the local oscillator (LO) signal generated by a conventional (superheterodyne) receiver. The LO frequency is unique to each broadcast signal, while that of the intermediate frequency (IF) signal is not. For conventional AM receivers, the IF signal is always at 455 kHz; for conventional FM receivers, the IF is always 10.7 MHz. Therefore, if the true IF signal were to be sensed, Baehr's frequency-scanning method would be inoperative because all broadcasts in a band would have the same IF signal frequency and no discrimination between stations would be possible. As Applicants noted above,

the LO signal is generated locally within a conventional receiver and contains no modulation and, hence, no broadcast audio or any program content of any kind.

In contrast, the Applicants disclose relaying the broadcast audio-frequency program content presented by loudspeakers as acoustic signals within a vehicle (or any other location) to a processing site that may be removed some considerable distance. There the relayed audio content is compared with the audio contents of known broadcast signals separately received at the processing site. This comparison produces the desired data, or "hits".

Baehr further teaches collecting sensed "hits" (Baehr's "raw data" comprises time-stamped, sensed frequency values) at the roadside processor and subsequently reporting the raw statistical data or database periodically to a central location (col. 8 lines 25 – 32 and Fig. 3). Baehr teaches a cellular telephone data link for communicating said statistical data from the roadside scanner to the central location. Baehr does not suggest, explicitly or otherwise, use of a cellular or any type of telephone for transmitting audio, whether intercepted from a loudspeaker or otherwise.

In contrast, the Applicants disclose using a cellular telephone to relay all or part of the broadcast audio content presented from loudspeakers, such as heard by a listener in a vehicle, to a central location in real time, without performing any local data collection or processing. Furthermore, either a conventional superheterodyne or unconventional radio receiver may be used.

References require addition of code to broadcast. August teaches modulating a data stream using spread-spectrum techniques and embedding said stream in a perceptible audio signal, which may be broadcast program material. The modulated data stream is imperceptible to the listener. In certain

embodiments, capture or receive device 110 may sense the composite audio signal and typically has special features to decode or otherwise process the embedded data stream. In one embodiment, capture device 110 is an unmodified mobile or cellular telephone that merely relays the entire audio signal to a central site where the embedded data stream is recovered and decoded.

Similarly, in one embodiment Wang/parent teaches embedding a code in audio program material, to assist identification of the material, in particular music, for a prospective buyer.

In contrast, Applicants' invention does not require embedding a code in the broadcast or any other audio program material. Furthermore, August cannot identify broadcasts that do not contain a code. As noted above, Wang/parent cannot identify in general the broadcast **source** of audio program material. Applicants' invention is capable of identifying all broadcast sources, whether or not they contain a code. Applicants' invention provides significantly greater functionality than August or Wang/parent.

August does not suggest or discuss, explicitly or otherwise, processing the program material in which the data stream is embedded. Furthermore, nowhere does August, explicitly or otherwise, suggest or discuss comparing broadcast signals received at separate locations.

Misunderstood Reference. The Applicants respectfully submit that Baehr does not teach what the Examiner relies upon it as supposedly teaching. In particular, in his rejection of base claims 1 and 14, the Examiner states: "...Baehr teaches an apparatus and method...wherein one or more broadcast signals are received (see left side of figure 2) wherein FM or AM [are] received and converted to digital [sic] enabling microprocessor 44 to store..." However, figure 1 clearly

shows that the received signals radiate from the vehicle and are not FM or AM broadcast signals at all. The Applicants have noted above that said radiated signals are actually LO signals, which contain no broadcast material. Applicants believe that Baehr's misidentification of the LO signal as the IF signal has misled the Examiner.

Even if Baehr's roadside apparatus were to receive broadcast signals, such signals are not digitized ("converted to digital") and fed to microprocessor 44. Figure 2 clearly shows that any and all received signals are passed to a digitally tuned scanning receiver, which senses the presence or absence of a signal at a particular scanned frequency. The presence and corresponding frequency of said signal constitute the raw data fed to microprocessor 44. That is, Baehr's digital information is the merely the frequency of the digitally tuned scanning receiver and the time of a sensed hit (col. 8, lines 9-10). Nowhere does Baehr discuss or suggest, explicitly or otherwise, digitizing a broadcast signal, either in the automobile receiver, the roadside scanner, or at any other location.

State-of-the-art receivers may not produce reradiated intermediate signals. For example, modern so-called "all digital" radio receivers may not employ the superheterodyne principle. Therefore, Baehr's roadside scanner would not be able to detect any intermediate signal. However, because it does not depend on any intermediate signal, Applicants' invention would still be able to determine the source of broadcast and other program material.

Supposed operation of Baehr is incomplete. Even if Baehr could be construed to teach converting the intermediate signal into an audio signal before the "automobile actually retransmits it", to the roadside scanner or anyplace else, this is not sufficient to identify the broadcast source. For example, during the Holiday Season, many stations broadcast standard musical selections, such as

"Jingle Bells". Thus a multiplicity of retransmitted audio signals may contain all or part of "Jingle Bells". At least one additional step is required to identify the source of a particular audio segment. Nowhere does Baehr, explicitly or otherwise, suggest any such additional step of identification.

The Examiner astutely recognizes the need for this additional step, and proposes embedding a code as taught by August or Wang/parent [44]. However, this resulting combination **is not the Applicants' invention**. Applicants disclose comparing audio signals received substantially simultaneously at separated locations. Applicants' invention does not require embedding a code or any other identifying signal in the broadcast. Furthermore, Applicants' invention provides greater functionality because it is capable of detecting the source of broadcast and other signals that do not contain an embedded code or other signal.

Irrelevant Combination Suggested. The Examiner asserts that "...it would have been obvious for any one of ordinary skill to modify the processing module (item 22 in figures 1 and 3) as taught by Baehr with the ability to receive and decode advertisement data as taught by August thereby allowing the advertiser to determine which radio stations transmitted their advertisement..." However, even if it were possible to modify the processing module in the way suggested by the Examiner, Applicants' invention nevertheless **employs an entirely different principle of operation** from that of the combination suggested by the Examiner. Receiving and decoding advertisement data only is not part of Applicants' invention, nor is it taught by or claimed by the Applicants. Applicants' invention does not require embedding any code or signal of any type in broadcast program or advertising material.

The Applicants' invention teaches a method and apparatus for detecting a broadcast signal and determining its source of by comparing audio frequency

broadcast program material separately received at two locations. Therefore, Applicants respectfully submit that the combination suggested by the Examiner is irrelevant, and that rejection of claims 1-15 and 17-20 on the basis of this suggested combination would be improper.

References Teach Away. Baehr does not suggest, explicitly or otherwise, capturing or processing broadcast program material or content in any way. In fact, Baehr considers broadcast signals per se to be a nuisance. Specifically, FM screening filter 34 explicitly eliminates FM broadcast signals in the 88-98 MHz half portion of the FM broadcast band (Figure 2).

August does not suggest, explicitly or otherwise, processing program material intended for human perception. In fact, in connection with Figure 9, August teaches imposing an electrical or acoustic filter 500 to attenuate human voice frequencies and only pass the encoded data stream. Figure 2 shows the response curve 58 of such a filter and the suppressive effect on voice and normal broadcast program content frequency bands. Therefore, August clearly teaches suppression of broadcast audio material and content.

It is seen that both Baehr and August separately and independently teach away from processing broadcast program audio content. Therefore, the Applicants respectfully submit that rejection of claims 1-15 and 17-20 on the basis that it would be obvious to modify or combine any teachings by Baehr or August would be improper.

Inoperable Combination. The Examiner suggests that it would be possible to modify processing module 22 (Figure 1 and 3) to provide "the ability to receive and decode...data as taught by August..." However, the input to processor 22 is a stream of data words representing the frequencies sensed by scanning

receiver 42 plus time stamps (col. 8, lines 9-10). These contain no information regarding broadcast program content, whether that content also comprises encoded data or not. Processor 22 cannot be modified in any way to process data that is not provided to it. Furthermore, even if the Examiner's suggested combination were expanded beyond the Examiner's proposal to encompass possible modification of scanning receiver 42 to extract encoded data, the LO signals provided to receiver 42 are un-modulated, and themselves contain no program content, material, or data that could be decoded. Therefore, the Applicants respectfully submit that rejection of claims 1-15 and 17-20 on the basis that it would be possible to modify processing module 22 would be improper.

Unsuggested Modification. Before claims 1-15 and 17-20 can be deemed obvious less than 35 U.S.C. § 103, there must be an "essential evidentiary component of obviousness holding"---i.e., a teaching or suggestion or motivation to combine the features of some other relevant reference with those of Baehr. Neither the teachings of Baehr nor those of August or Wang/parent contain any suggestion, explicit or otherwise, that they be combined in the manner suggested by the Examiner to determine the source of a broadcast signal. Baehr senses the frequency of the LO signal from a conventional receiver in a passing car to ascertain said source. Baehr is individually complete.

Similarly, August is individually complete. Because data, as taught by August, from which the broadcast station identity may be ascertained, is embedded in the program material, there is no need, use, or motivation for additional scanning processes. Adding scanning capability would not improve, and in fact would needlessly complicate, the method taught by August.

Similarly, Wang/parent is individually complete. Because Wang/parent is capable by itself of identifying music and other signals stored as markers in its database, there is no need, use, or motivation for additional scanning processes. Nowhere does Wang/parent suggest, explicitly or otherwise, identifying the broadcast source of the identified music or other broadcast material.

Accordingly, the Applicants respectfully submit that rejection of claims 1-15 and 17-20 under 35 U.S.C. § 103 would be improper.

REMARKS – Claims: In their previous response, dated 26 February 2005, entitled Amendment A, the Applicants amended the claims to define the invention more particularly and distinctly, emphasize improvements of the invention, and define the invention patentably over the prior art. Applicants have now cancelled Claims 1-15 and 17-20 and have rewritten them as new claims 21-37. Claim 16 was previously cancelled. Minor punctuation errors in claims 14 and 15 have been corrected by this amendment.

Accordingly, Applicants respectfully submit that new claims 21-37 are allowable over Baehr, August, or Wang/parent and solicit reconsideration and allowance.

Base Claim 21: Applicants have rewritten base method claim 1 as base method claim 21 to recite clearly that the audio-frequency contents of a first signal received at one location is being compared to audio contents of second signals from known sources in order to identify the source of the first signal. As discussed above, Applicants' base claim 21 describes a functionally and structurally different method from those taught by Baehr or August or Wang/parent, and from the combination of Baehr and August, of Baehr and Wang/parent, or of Baehr, August and Wang/parent, proposed by the Examiner.

Further, before claim 21 can be deemed obvious under 35 U.S.C. § 103 there must be an "essential evidentiary component of obviousness holding"---i.e., a teaching or suggestion or motivation to combine the features of some other relevant reference with those of Baehr [See In re Dembiczak (Fed. Cir. 1999) 175 F3.d 994,999-1000, 50 U.S.P.Q.2d 1614.] Accordingly, base claim 21 and all dependent claims incorporating the respective limitations of base claim 21 are thought to define allowable subject matter. Therefore, Applicants respectfully solicit a Notice of Allowability to that effect.

Dependent Claim 22: Applicants have rewritten dependent claim 2 as dependent claim 22. August teaches using a mobile telephone to transmit collected "hit" data and/or statistics, which consist of frequency-scanner "hits" and associated time stamps, to a data collection center. Nowhere does August, explicitly or otherwise, discuss or suggest transmitting or comparing the audio from a mobile telephone with separately received broadcast audio. Accordingly, dependent claim 22 is thought to define allowable subject matter. Therefore, Applicants solicit reconsideration and a Notice of Allowability to that effect.

Dependent Claim 23: Applicants have rewritten dependent claim 3 as dependent claim 23. As discussed above, Applicants respectfully submit that Baehr does not teach receiving radio broadcasts. Rather, Baehr teaches receiving LO radiation and the suppression of signals containing radio broadcast material. Nowhere does Baehr, explicitly or otherwise, discuss or suggest comparing the audio from a mobile telephone with separately received broadcast audio. Accordingly, dependent claim 23 is thought to define allowable subject matter. Therefore the Applicant respectfully solicits reconsideration and a Notice of Allowability to that effect.

Dependent Claims 24-25: Applicants have rewritten dependent claims 4 and 5 as dependent claims 24 and 25. While August teaches audio portion of a television broadcast and broadcast from a satellite, nowhere does August, explicitly or otherwise, discuss or suggest comparing relayed audio with separately received audio from a television or satellite broadcast. Accordingly, dependent claims 24-25 are thought to define allowable subject matter. Therefore, Applicants solicit reconsideration and a Notice of Allowability to that effect.

Dependent Claims 26-29: The Applicants have rewritten dependent claims 6-9 as dependent claims 26-29 to recite clearly and distinctly the nature of the statistical processing means. Baehr teaches collecting raw "hit" results to form a statistical database. In the Applicants' invention, mathematical processes known to statistical communications theory known as cross-correlation and co-spectral analysis are applied to a pair of audio signals in order to make a matching, or "hit". decision. Applicants respectfully submit that the Examiner may have confused the type of statistical analysis taught by Baehr and that of the Applicants' invention. Nowhere does Baehr, explicitly or otherwise, discuss or suggest comparing, statistically or by any other means, the audio from a mobile telephone with separately received broadcast audio. Accordingly, dependent claims 26-29 are thought to define allowable subject matter. Therefore the Applicants respectfully solicit reconsideration and a Notice of Allowability to that effect.

Dependent Claim 30: Applicants have rewritten dependent claim 10 as dependent claim 30 to recite clearly that the audio broadcast material may contain an **incidental** encoded, injected or embedded signal. Unlike August or Wang/parent, Applicants' invention does decode or rely upon any embedded signals. Rather, Applicants invention uses all available audio content, whether or

identification. Nowhere does August, explicitly or otherwise, suggest or discuss providing subscribers with information by comparing, statistically or by any other means, the audio from a mobile telephone with separately received broadcast audio. Accordingly, dependent claims 36-37 are now thought to define allowable subject matter. Therefore the Applicant respectfully solicits reconsideration and a Notice of Allowability to that effect.

SUMMARY

Applicants have chosen language for their base claims such that the rewritten claims do not 'read on' the non-analogous methods, structures and different functionalities of the system described in Baehr or Wang/parent. Nowhere does Baehr or Wang/parent disclose, explicitly or otherwise, comparing, statistically or by any other means, the audio from a mobile telephone with separately received broadcast audio. Unlike Applicants' invention, August requires embedding a code in the audio to determine its source.

A patent claim is "anticipated" therefore invalid only when a single prior art reference discloses each and every limitation of the claim; disclosure need not be express, but may anticipate by inherency where it would be appreciated by one of ordinary skill in the art. *Glaxo Inc. v. Novopharm Ltd.*, C.A.Fed. (N.C.) 1995, 52 F3d 1043, 34 U.S.P.Q.2d 1565, rehearing denied, in banc suggestion declined, certiorari denied 116S.Ct., 516. Furthermore, an accidental or unwitting duplication of an invention cannot constitute an anticipation. *Application of Marshall*, Cust. & Pat.App.1978, 578 F.2d 301, 198 U.S,P.Q. 344. Finally, anticipation of invention occurs only when some single prior article, patent, or publication contains within its four corners every element of a claim in question; patent is not anticipated when its elements are distributed among

several prior publications or devices. *Paeco, Inc. v. Applied Moldings, Inc.*, C.A.3 (Pa.) 1977, 562 F.2d 870, 194 U.S.P.Q. 353.

CONCLUSION

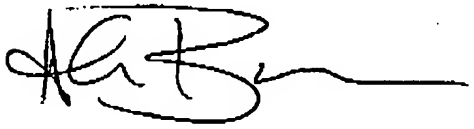
New base claim 21, dependent claims 22-31, base claim 32, and dependent claims 33-37 are thought to describe subject matter that is not obvious in view of Baehr as modified by the teachings of August or of Wang/parent, per 35 U.S.C. § 103. For all of the reasons given above, Applicants respectfully submit that the claims are in proper form, and that the claims all define patentability over the prior art. Accordingly, Applicants submit that this application is now in full condition for a timely Notice of Allowance, which action Applicants respectfully solicit.

Applicants wish to thank Examiner Taylor for the attention given to the subject matter in this application and recognition of the creativity of using a second channel means for determining if an intercepted audio signal contains broadcast material without embedded identification and for indentifying the particular broadcast source.

Conditional Request for Constructive Assistance

The Applicants have rewritten the claims of this application so that they are proper, definite, and define novel methods and structure that is also unobvious. If, for any reason this application is not believed to be in full condition for allowance, the Applicants respectfully requests the constructive assistance and suggestions of the Examiner pursuant to M.P.E.P § 2173.02 and § 707.07(j) in order that the Applicants can place this application in allowable condition as soon as possible and without the need for further proceedings.

Very respectfully,



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